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Title : River dolphins and flooded forest: seasonal habitat use and sexual segregation of botos (Inia geoffrensis) in an extreme cetacean environment

Category : Ecology

Student : Not Applicable

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Abstract : Habitat use by the boto, or Amazon river dolphin, Inia geoffrensis was investigated in and around the Mamirauá Reserve, Brazil. Largely forested with numerous channels and lakes, Mamirauá comprises a variety of seasonal floodplain habitats known collectively as várzea. The annual cycle of flooding in this region (amplitude 11-15 m) dominates all life. The objective of the study was to determine the relative importance and use of floodplain and riverine habitats to botos year round. Profound seasonal differences in dolphin density between habitats were largely explained by fish movements, in turn dictated by changes in water level and dissolved oxygen. An exodus of botos from floodplain to river at low water prevents dolphins being trapped in areas that become entirely dry. Densities of botos in floodplain channels were seasonally higher (up to 18 km-2) than reported for any cetacean worldwide. Adults were largely segregated by sex except at low water, which coincides with the mating season. Females & calves dominated in chavascal habitat - the areas most remote from rivers, which were preferred by males. Likely causes of this segregation are the nutritional needs of calves, and safety of females and/or calves from male harassment. With conceptions concentrated in the small proportion of the year when all botos are forced on to main rivers, there is little reason for males to seek females during the remainder of the water cycle. Some 80% of botos occurring on rivers were within 150 m of the margins. The centre of the wide (> 1km) rivers that characterise much of the Amazon basin are almost ignored by this species.
The reliance of adult females and calves on várzea in a region with exceptional dolphin densities demonstrates the importance of floodplain habitats for the boto, and may be the key determinant of this species' distribution.